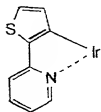


We Claim:

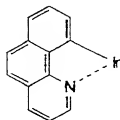
1. A light-emitting material comprising a compound having a partial structure represented by the following formulae (1) to (10), (21), (22), or tautomer thereof:

5



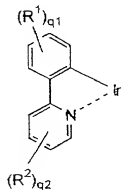
(1)

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(2)

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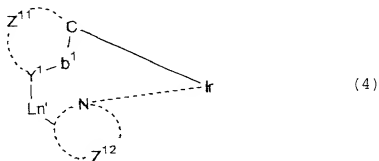
(3)

20

25

wherein  $R^1$  and  $R^2$  each represent a substituent; and  $q^1$  and  $q^2$  each represent an integer of from 0 to 4, with the proviso that the sum of  $q^1$  and  $q^2$  is 1 or more,

5



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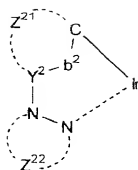
wherein  $Z^{11}$  and  $Z^{12}$  each represent a nonmetallic atom group required to form a 5- or 6-membered ring with at least one of carbon atom and nitrogen atom, said ring optionally having a substituent or forming a condensed ring with the other ring;

15  $Ln^1$  represents a divalent group;  $Y^1$  represents a nitrogen atom or carbon atom; and  $b^1$  represents a single bond or double bond,



20



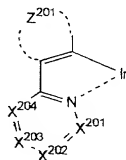


(7)

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wherein  $Z^{21}$  and  $Z^{22}$  each represent a nonmetallic atom group required to form a 5- or 6-membered ring with at least one of carbon atom and nitrogen atom, said ring optionally having a substituent or forming a condensed ring with the other ring;  $Y^2$  represents a nitrogen atom or carbon atom; and  $b^2$  represents a single bond or double bond,

10



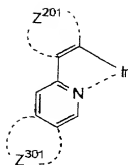
(8)

15

wherein  $X^{201}$ ,  $X^{202}$ ,  $X^{203}$  and  $X^{204}$  each represent a nitrogen atom or C-R and forms a nitrogen-containing heteroaryl 6-membered ring with  $-C=N-$ , with the proviso that at least one of  $X^{201}$ ,  $X^{202}$ ,  $X^{203}$  and  $X^{204}$  represents a nitrogen atom; R represents a hydrogen atom or substituent; and  $Z^{201}$  represents an atomic group for forming an aryl or heteroaryl ring,

25

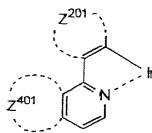
5



(9)

wherein  $Z^{201}$  and  $Z^{301}$  each represent an atomic group for forming  
an aryl or heteroaryl ring,

10

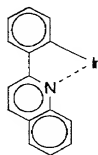


(10)

15

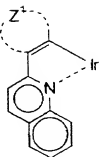
wherein  $Z^{201}$  and  $Z^{401}$  each represent an atomic group for forming  
an aryl or heteroaryl ring,

20



(21)

25

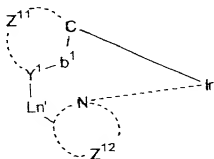


(22)

wherein  $Z^1$  represents an atomic group which forms a heteroaryl ring.

2. The light-emitting material according to claim 1, which comprises the compound represented by the formula (21) or (22), wherein said quinoline derivative ligand is formed by at least four rings.

3. A compound having a partial structure represented by the following formula (4) or a tautomer thereof:

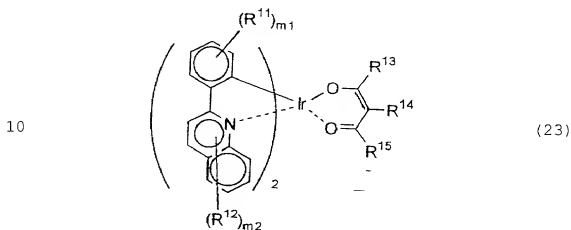


(4)

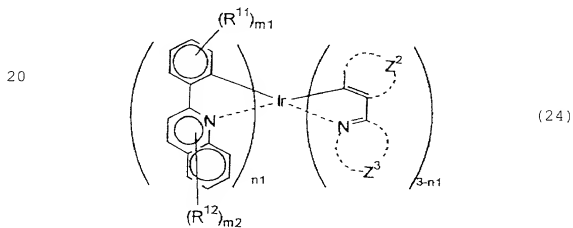
wherein  $Z^{11}$  and  $Z^{12}$  each represent a nonmetallic atom group required to form a 5- or 6-membered ring with carbon atom and/or nitrogen atom, said ring optionally having a substituent or

forming a condensed ring with the other ring;  $\text{Ln}^1$  represents a divalent group;  $\text{Y}^1$  represents a nitrogen atom or carbon atom; and  $\text{b}^1$  represents a single bond or double bond.

- 5                    4. A compound represented by the following formula (23) or (24):



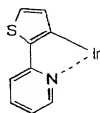
- 15                    wherein  $\text{R}^{11}$  and  $\text{R}^{12}$  each represent a substituent;  $\text{R}^{13}$ ,  $\text{R}^{14}$  and  $\text{R}^{15}$  each represent a hydrogen atom or substituent;  $\text{m}^1$  represents an integer of from 0 to 4; and  $\text{m}^2$  represents an integer of from 0 to 6,



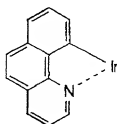
25

wherein  $R^{11}$  and  $R^{12}$  each represent a substituent;  $m^1$  represents an integer of from 0 to 4;  $m^2$  represents an integer of from 0 to 6;  $Z^2$  represents an atomic group which forms an aryl or heteroaryl ring;  $Z^3$  represents an atomic group which forms a nitrogen-containing heteroaryl ring; and  $n^1$  represents an integer of from 1 to 3.

5. An organic light-emitting device comprising a light-emitting layer or a plurality of thin organic compound layers containing a light-emitting layer formed interposed between a pair of electrodes, wherein at least one layer comprises a light-emitting material having a partial structure represented by the following formula (1) to (10), (21), (22) or a tautomer thereof:

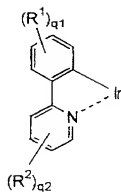


(1)



(2)

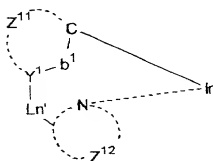
5



(3)

wherein  $R^1$  and  $R^2$  each represent a substituent; and  $q^1$  and  $q^2$  each represent an integer of from 0 to 4, with the proviso that the sum of  $q^1$  and  $q^2$  is 1 or more,

15



(4)

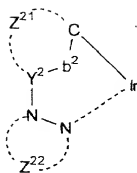
wherein  $Z^{11}$  and  $Z^{12}$  each represent a nonmetallic atom group required to form a 5- or 6-membered ring with at least one of carbon atom and nitrogen atom, said ring optionally having a substituent or forming a condensed ring with the other ring;  $Ln^1$  represents a divalent group;  $Y^1$  represents a nitrogen atom or carbon atom; and  $b^1$  represents a single bond or double bond,

25





5



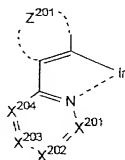
(7)

10

wherein  $Z^{21}$  and  $Z^{22}$  each represent a nonmetallic atom group required to form a 5- or 6-membered ring with at least one of carbon atom and nitrogen atom, said ring optionally having a substituent or forming a condensed ring with the other ring;

15  $Y^2$  represents a nitrogen atom or carbon atom; and  $b^2$  represents a single bond or double bond,

20



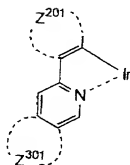
(8)

wherein  $X^{201}$ ,  $X^{202}$ ,  $X^{203}$  and  $X^{204}$  each represent a nitrogen atom

25 or C-R and forms a nitrogen-containing heteroaryl 6-membered

ring with  $-C=N-$ , with the proviso that at least one of  $X^{201}$ ,  $X^{202}$ ,  $X^{203}$  and  $X^{204}$  represents a nitrogen atom; R represents a hydrogen atom or substituent; and  $Z^{201}$  represents an atomic group for forming an aryl or heteroaryl ring,

5

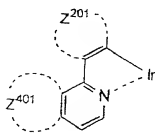


(9)

10

wherein  $Z^{201}$  and  $Z^{301}$  each represent an atomic group for forming an aryl or heteroaryl ring,

15

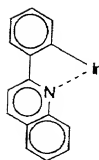


(10)

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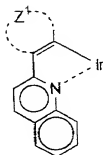
wherein  $Z^{201}$  and  $Z^{401}$  each represent an atomic group for forming an aryl or heteroaryl ring,

5



(21)

10



(22)

15 wherein  $Z^1$  represents an atomic group which forms a heteroaryl ring.

6. An organic light-emitting device according to claim 5, wherein at least one layer consists essentially of the  
20 light-emitting material.

7. The light-emitting device according to Claim 5, wherein said layer comprising the light-emitting material is formed by a coating process.

25

8. An organic light-emitting device comprising a light-emitting layer or a plurality of thin organic compound layers containing a light-emitting layer formed interposed between a pair of electrodes, wherein at least one layer  
5 contains an orthometalated iridium complex, and said layer containing an orthometalated iridium complex is formed by a coating process.

9. An organic light-emitting device having an external  
10 quantum efficiency of 5% or more, and a  $\lambda_{\text{max}}$  of light emitting of 590 nm or more.